

# - 'Head-only' stunning - The numbers -



**Poultry Vision**  
*Far Beyond EC1099*

## Controlled Atmosphere Stunning vs 'Head-only' electrical stunning Science, research & the numbers

In December 2013 the European Commission presented to both Parliament and Counsel a report on various stunning methods for poultry.

The report compared the water bath, Controlled Atmosphere, 'Head-only' & Low Atmosphere Stunning and calculated which was the most cost effective way for stunning poultry.

It is no surprise that the use of a water bath is by far the most cost effective way but the stunning efficiency is extremely low which was the main reason for the implementation of EU1099.

Basis calculations for the cost of stunning with different methods for a throughput of 12.000 bph,

Cost factor	Water bath	CAS	Head-only	Vacuum stunning
Installation cost	€ 43000,-	€ 308300,-	€ 370000,-	€ 500000,-
Maintenance (% of installation cost)	3,45%	6,90%	3,00%	2,40%
Labour (reception/hanging)	97 hpd	90 hpd	96 hpd	90 hpd
Water (stunning/cleaning)	9,0m³ pd	3,5m³ pd	0,96m³ pd	3,5m³ pd
Electricity	5,2 kwh pd	127,0 kwh pd	9,6 kwh pd	1136,0 kwh pd
Gas	-	3,1 tonnes pd	-	-
Labour (other)	3 hpd	5 hpd	0,5 hpd	5 hpd*
Cost per bird (EU average)	2,439 cents	3,495 cents	2,521 cents	2,641 cents

### Differences at 6.000 bph

	Install. cost slightly lower; water & labour usage lower; electricity usage app. the same	Install., water & electricity cost the same; labour & gas usage proportional lower; maintenance lower due to lower throughput	Install. cost slightly lower (€ 350K), labour & electricity cost reduced proportionally	Install. costs halved through removal of half the vacuum chambers (€ 250K), electricity & labour also reduced proportionally
Cost per bird (EU average)	2,541 cents	3,687 cents	2,716 cents	2,667 cents

### Differences at 3.000 bph

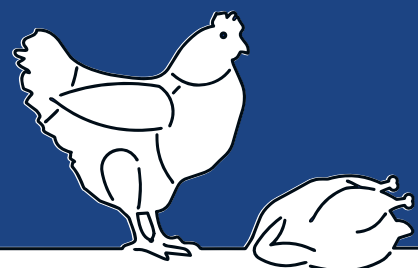
	Install. cost slightly lower; water & labour costs lower; electricity app. the same	Install., water & electricity costs the same; labour & gas costs proportional lower; maintenance lower	Install. Cost as per 6.000 bph (€ 350K), labour & electricity cost reduced proportionally	Install. & electricity as for 6.000 bph, labour reduced proportionally
Cost per bird (EU average)	2,584 cents	4,053 cents	3,121 cents	3,087 cents

*For both small & medium processing the above mentioned pricing of € 350K for 'Head-only' electrical stunning is incorrect. Please contact us for latest the prices!*

**Choose for reversible 'Head-only' electrical stunning with an accuracy of 99.4%, safe € 0,01 per chicken and move far beyond EU1099**

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**Report from the Commission to the  
European Parliament and the Counsel on  
various stunning methods for poultry.**

*In the calculations for the 'Head-only' electrical stunner the Commission based there pricing solely on the on the information that, our former competitor, TopKip provided.*

*In reality the installation costs for 'Head-only' electrical stunning will be up and around those of CAS stunning for a stunner suitable for 14000 bph.*

*Due to there size and pricing CAS and Vacuum systems can't be viable operated by small and medium processors where Head-only electrical stunners can!*

# - Electrical stunning - Science & research -



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## Water bath stunning vs 'Head-only' electrical stunning Science, research and numbers

<sup>1</sup> Woolley (et al., 1986a,b) claimed that, under slaughterhouse conditions;

- 1/3 of birds are effectively stunned
- 1/3 are inadequately stunned and the remaining
- 1/3 undergo cardiac arrest

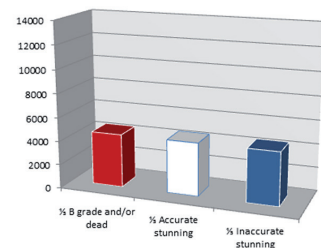
<sup>2</sup> Hindle (et al, 2010) states that variations in resistance can influence the quality of the stun to such a degree that some birds receive too much while others receive insufficient current. Ultimately, this can lead to problems with;

- animal welfare (failure to lose consciousness or rapid recovery)
- product quality (haemorrhaging, bone fractures)

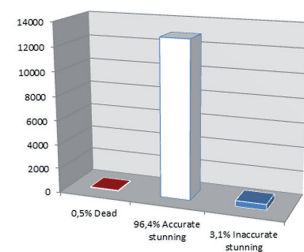
<sup>3</sup> In Livestock Research Report 442 "Efficacy of the Dutch Vision 'Head-only' poultry stunner" Gerritzen (et al, 2015) tested, under slaughterhouse conditions at 13500bph, an efficiency of;

- **0.5%** dead product
- **96.4%** accurate stunning
- **3.1%** inaccurate stunning (missed birds, empty shackles)

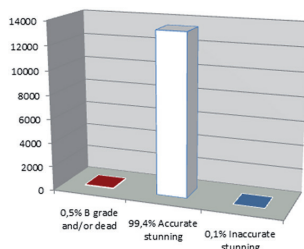
Water bath stunning efficiency totals <sup>1 2</sup>



Head Only stunning efficiency totals <sup>3</sup>



Head Only, splitter & water bath totals



**Dutch Vision solutions** developed the Kill Line Shackle splitter to increase the amount of accurate stunning even further. The KLS splitter select all birds known to be stunned correctly and pushes them along the far side of a guide. Missed birds and/or empty shackles remain where they are and will be lead towards the installed water bath stunner.

Combining 'Head-only' & water bath stunning with the KLS splitter gives you a **unprecedented 99.4%** stunning accuracy at 14000bph!

**Choose for reversible 'Head-only' electrical stunning with an accuracy of 99.4% and go far beyond EU1099 with an installed operational back-up stunner**

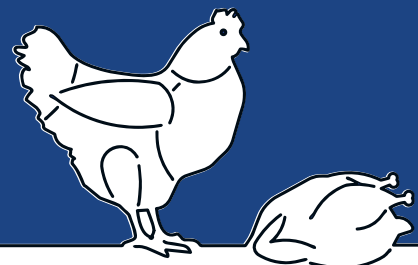
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